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METHOD AND APPARATUS FOR REPAIRING CONCRETE

CROSS-REFERENCE TO RELATED APPLICATION

This application is a divisional application of Serial No. 09/439,650, filed November 12, 1999 and allowed July 27, 2001.

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates to repairing concrete and, more particularly, relates to a method and apparatus for joining concrete sections together.

2. Discussion of the Related Art

10 Over time, cracks can develop within concrete structures which, if left unrepaired, can result in failure of the structure. To prevent such an occurrence without having to replace an entire slab, damaged slabs are often repaired by cutting a damaged section away from a preexisting concrete section, and by pouring new concrete in its place. However, new concrete does not always bond perfectly with the preexisting concrete, and cracks can propagate in the joint between the two sections.

15 Previous methods have been implemented to repair concrete structures and maintain the mechanical connection between a new concrete section and a preexisting concrete section. One repair method involves first removing defective concrete and drilling holes in the preexisting concrete using a rotary impact hammer drill. An adhesive is then placed into the holes, and reinforcing bars are inserted such that the bars extend beyond the outer wall of the preexisting concrete and are generally perpendicular

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METHOD AND APPARATUS FOR REPAIRING CONCRETE

ABSTRACT OF THE INVENTION

~~A method and~~ An apparatus for repairing concrete structures utilize a generally flat composite material insert. The insert is inserted into a slot formed in a preexisting section of concrete and bonded to the preexisting section using an adhesive. The insert is installed such that a portion of the insert extends beyond the preexisting structure and into a void where damaged concrete has been removed and where the new concrete is to be poured. The insert then functions to join the preexisting section and the new concrete section. Alternatively, the insert may comprise an extension to attach an external fixture to the concrete section. Alternatively, a slot can be created within two preexisting concrete sections, adhesive added to the slot, and an insert installed in the slot. Again, the insert functions to join the two concrete sections.